Appl. No.: 09/693,369
Amdt. dated 03/18/2005
Reply to Office action of 02/28/2005

Amendments to the Claims:

1.   (Currently Amended)   A method for dynamically creating a tunnel in a communications network to provide subscribers host access to a network service, comprising:

storing a subscriber profile in a network database, wherein the subscriber profile includes subscriber-specific network service tunneling requirements;

receiving at a network device a first subscriber data packet associated with a first network service;

accessing the subscriber profile to determine if the first network service has a subscriber-specific tunneling requirement; and

creating a first tunnel if a determination is made that the subscriber profile requires a first network service tunnel, wherein the first tunnel has a first end point at the network device and a second end point at the first network service;

receiving at the network device a second subscriber data packet associated with a second network service;

accessing the subscriber profile to determine if the second network service has a subscriber-specific tunneling requirement; and

creating a second tunnel if a determination is made that the subscriber profile requires a second network service tunnel, wherein the second tunnel has a first end point at the network device and a second end point at the second network service.

2.   (Original)   The method of Claim 1, wherein storing a subscriber profile comprises storing at least one parameter chosen from the group consisting of the network access identifier, a user/subscriber name and a user/subscriber password.

3.   (Original)   The method of Claim 1, further comprising determining if a first tunnel between the network device and the first network service pre-exists prior to creating the tunnel between the network device and the first network service.

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4.   (Original)   The method of Claim 1, wherein more than one subscriber accessing the communication network through the network device can simultaneously transmit data packets to the first network service via the first tunnel.

5.   (Canceled)

6.   (Currently Amended)   The method of Claim [[5]] 1, further comprising determining if a second tunnel between the network device and the second network service pre-exists prior to creating the tunnel between the network device and the second network service.

7.   (Currently Amended)   The method of Claim [[5]] 1, wherein the second tunnel is functional simultaneous with the functioning of the first tunnel.

8.   (Currently Amended)   The method of Claim [[5]] 1, wherein the more than one subscriber accessing the communication network through the network device can simultaneously transmit data packets to the first network service via the first tunnel and the second network service via the second tunnel.

9.   (Currently Amended)   A system for dynamically creating a tunnel in a communications network to provide a subscriber host access to a destination network, comprising:

a storage device that stores a subscriber profile, wherein the subscriber profile includes subscriber-specific network service tunneling requirements;

means for receiving at a network device a first data packet associated with a first network service;

means for accessing the subscriber profile to determine if the first network service has a subscriber-specific tunneling requirement; and

means for creating a first tunnel if a determination is made that the subscriber profile requires a first network service tunnel, wherein the first tunnel has a first end point at the network device and a second end point at the first network service;

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means for receiving at the network device a second data packet associated with a second network service;

means for accessing the subscriber profile to determine if the second network service has a subscriber-specific tunneling requirement; and

means for creating a second tunnel if a determination is made that the subscriber profile requires a second network service tunnel, wherein the second tunnel has a first end point at the network device and a second end point at the second network service.

10.   (Original)   The system of Claim 9, further comprising a means for determining if a first tunnel between the network device and the first network service pre-exists prior to creating the tunnel between the network device and the first network service.

11.   (Cancelled)

12.   (Currently Amended)   A network device that dynamically creates a tunnel in a communications network to provide a subscriber host access to a destination network, comprising:

a processor that receives from a subscriber a data packet associated with a network service;

a database accessed by the processor that stores a subscriber profile that defines the tunnel requirements for the network service; and

a tunnel management module implemented by the processor that communicates with the database to determine if the subscriber requires a tunnel for access to the network service and, if a determination is made that the tunnel is required, the tunnel management module creates a tunnel access session between the network device and the network service,

wherein the tunnel management module is capable of creating more than one tunnel access session for simultaneous subscriber access to more than one network service.

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13.   (Original)   The network device of Claim 12, further comprising a session management module implemented by the processor that communicates with the database to manage the tunnel access session provided by the network device.

14.   (Original)   The network device of Claim 12, wherein the tunnel management module determines if a tunnel between the network device and the network service pre-exists prior to creating the tunnel between the network device and the network service.

15.   (Cancelled)

16.   (Original)   The network device of Claim 12, wherein the tunnel management module is capable of providing simultaneous access to the tunnel access session to more than one subscriber accessing the communication network through the network device.

17.   (Original)   The network device of Claim 16, further comprising a session management module implemented by the processor that communicates with the database to manage the simultaneous tunnel access session provided to more than one subscriber accessing the communication network through the network device.

18.   (Original)   The network device of Claim 16, wherein the subscriber profile defines tunneling requirements for the more than one network services that the subscriber has been authorized to access.

19.   (Original)   The network device of Claim 18, wherein the tunneling requirements are predefined by the subscriber.

20.   (Original)   The network device of Claim 18, wherein the tunneling requirements are predefined by the network device administrator.

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